

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A light beam scanning apparatus comprising:

light emitting means for emitting a light beam;

scanning control means for controlling scanning of the light beam emitted by the light emitting means;

light quantity detecting means for detecting the quantity of light in the light beam emitted by the light emitting means;

light quantity control signal output means for outputting a light quantity control signal that performs control such that the quantity of light in the light beam emitted by the light emitting means is kept fixed on the basis of a result of detection of the quantity of light in the light beam executed by the light quantity detecting means; and

light emission control means for controlling a light emission timing for the light beam from the light emitting means on the basis of image data and controlling the quantity of light in the light beam emitted by the light emitting means on the basis of the light quantity control signal while the light emission timing is being controlled[.],

wherein the light emission control means controls the quantity of light in the light beam emitted from the light emitting means on the basis of the light quantity control signal in association with a light emission period which corresponds to the control of the light emission timing for the light beam based on the image data and which lasts a predetermined period or longer, the light emission control means starts light quantity control based on the light quantity control signal at an appropriate time to compensate for delay, on the basis of a delay in start of light quantity control determined from characteristics of the light quantity control signal, and the light emission control means ends light quantity control based on the light quantity control signal at an appropriate time to compensate for delay, on the basis of a delay in end of light quantity control determined from characteristics of the light quantity control signal.

2. (Original) The light beam scanning apparatus according to claim 1, wherein the light emission control means performs first light quantity control which controls forced emission of the light beam from the light emitting means at a predetermined time outside the period in which the light emission timing is controlled on the basis of the image data and which controls the quantity of light in the light beam from the light emitting means on the basis of the light quantity control signal, and performs second light control which controls the light emission timing for the light beam on the basis of the image data and which controls the quantity of light in the light beam from the light emitting means on the basis of the light quantity control signal while the light emission timing is being controlled.

3 – 5. (Cancelled)

6. (Original) The light beam scanning apparatus according to claim 1, wherein the light emitting means includes a plurality of light sources which emit respective light beams, the scanning control means controls scanning of the plurality of light beams emitted by the respective light sources,

the light quantity detecting means includes a plurality of light quantity detectors which individually detect the quantity of light in the respective light beams emitted by the corresponding light sources,

the light quantity control signal output means outputs a plurality of light quantity control signals that perform control such that the quantity of light in the plurality of light beams emitted by the respective light sources is kept fixed on the basis of a plurality of results of detection of the quantity of light executed by the respective light quantity detectors, and

the light emission control means controls light emission timings for the plurality of light beams from the respective light sources on the basis of image data and controls the quantity of light in the plurality of light beams emitted by the respective light sources on the basis of the light quantity control signal while the light emission timings are being controlled.

7. (Original) The light beam scanning apparatus according to claim 6, wherein the light emission control means controls the quantity of light in the plurality of light beams from the respective light sources on the basis of the light quantity control signal in association with

a light emission period which corresponds to the control of the light emission timings for the plurality of light beams based on the image data and which last a predetermined period or longer.

8. (Original) The light beam scanning apparatus according to claim 1, wherein the light emitting means includes a plurality of light sources which emit respective light beams, the scanning control means controls scanning of the plurality of light beams emitted by the respective light sources,

the light quantity detecting means includes a light quantity detector which detects the quantity of light in all of the plurality of light beams,

the light quantity control signal output means outputs a light quantity control signal that performs control such that the quantity of light in the light beam emitted by only one of the plurality of light sources is kept fixed on the basis of a result of detection of the quantity of light executed by the light quantity detector while the only one light source is emitting the light beam, and

the light emission control means controls light emission timings for the plurality of light beams from the respective light sources on the basis of image data and controls the quantity of light in the light beam emitted by the only one of the plurality of light sources on the basis of the light quantity control signal while the light emission timings are being controlled.

9. (Currently Amended) The light beam scanning apparatus according to claim 7-8, wherein the light emission control means controls the quantity of light in one light beam from the only one of the plurality of light sources on the basis of the light quantity control signal in association with a light emission period which corresponds to the light emission timing for the light beam based on the image data from the only one light source and which last a predetermined period or longer.

10. (Withdrawn) A light beam scanning apparatus comprising:
light emitting means for emitting a light beam;

scanning control means for controlling scanning of the light beam by subjecting the light beam to a conformal speed motion;

converting means for allowing the light beam to pass through to convert the conformal rate motion of the light beam into a uniform rate motion; and

light quantity control means for controlling the quantity of light in the light beam emitted by the light emitting means on the basis of a transmittance of the converting means so that the quantity of light in the light beam emitted by the light emitting means which quantity is varied by the effect of the transmittance is kept fixed.

11. (Withdrawn) The light beam scanning apparatus according to claim 10, wherein the converting means continuously varies the quantity of light in the light beam in association with the conversion of the conformal rate motion of the light beam into the uniform rate motion, and

the light quantity control means continuously controls the quantity of light in the light beam on the basis of the transmittance in association with the continuous variation in the quantity of light in the light beam so that the quantity of light in light beams reaching an image carrier is kept fixed.

12. (Withdrawn) The light beam scanning apparatus according to claim 10, wherein the light beam incident on the converting means in accordance with the conformal rate motion branches to different optical paths upon passing through the converting means,

the quantity of light in the light beam converted by the converting means is continuously varied under the effect of the different transmittances of the optical paths in the converting means, and

the light quantity control means continuously controls the quantity of light in the light beam on the basis of the different transmittances of the optical paths in association with the continuous variation in the quantity of light in the light beam so that the quantity of light in light beams reaching a image carrier is kept fixed.

13. (Withdrawn) The light beam scanning apparatus according to claim 10, wherein the converting means continuously varies the quantity of light in the light beam in association

with the conversion of the conformal rate motion of the light beam into the uniform rate motion, and

the light quantity control means controls the quantity of light in the light beam step by step on the basis of the transmittance in association with the continuous variation in the quantity of light in the light beam so that the quantity of light in light beams reaching a image carrier is averaged.

14. (Withdrawn) The light beam scanning apparatus according to claim 10, wherein the light beam incident on the converting means in accordance with the conformal rate motion branches to different optical paths upon passing through the converting means,

the quantity of light in the light beam converted by the converting means is continuously varied under the effect of the different transmittances of the optical paths in the converting means, and

the light quantity control means controls the quantity of light in the light beam step by step on the basis of the different transmittances of the optical paths in association with the continuous variation in the quantity of light in the light beam so that the quantity of light in light beams reaching a image carrier is averaged.

15. (Original) An image forming apparatus to which the light beam scanning apparatus according to claim 1 is applied, the image forming apparatus comprising:

image forming means for forming an image on the basis of a light beam with its light emission timing and quantity of light controlled by the light emission control means.

16. (Withdrawn) An image forming apparatus to which the light beam scanning apparatus according to claim 10 is applied, the image forming apparatus comprising:

image forming means for forming an image on the basis of a light beam with its quantity of light controlled by the light quantity control means.

17. (New) A light beam scanning apparatus comprising:

a light source configured to emit a light beam;

a scanning control unit configured to control scanning of the light beam emitted by the light source;

a light quantity detector configured to detect the quantity of light in the light beam emitted by the light source;

a light quantity control signal output configured to output a light quantity control signal that performs control such that the quantity of light in the light beam emitted by the light source is kept fixed on the basis of a result of detection of the quantity of light in the light beam executed by the light quantity detector; and

a light emission controller configured to control a light emission timing for the light beam from the light source on the basis of image data and to control the quantity of light in the light beam emitted by the light source on the basis of the light quantity control signal while the light emission timing is being controlled,

wherein the light emission controller is configured to control the quantity of light in the light beam emitted from the light source on the basis of the light quantity control signal in association with a light emission period which corresponds to the control of the light emission timing for the light beam based on the image data and which lasts a predetermined period or longer, the light emission controller starts light quantity control based on the light quantity control signal at an appropriate time to compensate for delay, on the basis of a delay in start of light quantity control determined from characteristics of the light quantity control signal, and the light emission controller ends light quantity control based on the light quantity control signal at an appropriate time to compensate for delay, on the basis of a delay in end of light quantity control determined from characteristics of the light quantity control signal.